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Scimone et al.

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(54) **CUTTING DEVICE**

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(65) **Prior Publication Data**

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Related U.S. Application Data

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(51) **Int. Cl.**

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B26B 29/02	(2006.01)
B25G 1/10	(2006.01)

(52) **U.S. Cl.**

CPC ***B26B 5/00*** (2013.01); ***B25G 1/10*** (2013.01); ***B26B 29/025*** (2013.01)

(58) **Field of Classification Search**

CPC B26B 5/00; B26B 29/025; B25G 1/10

See application file for complete search history.

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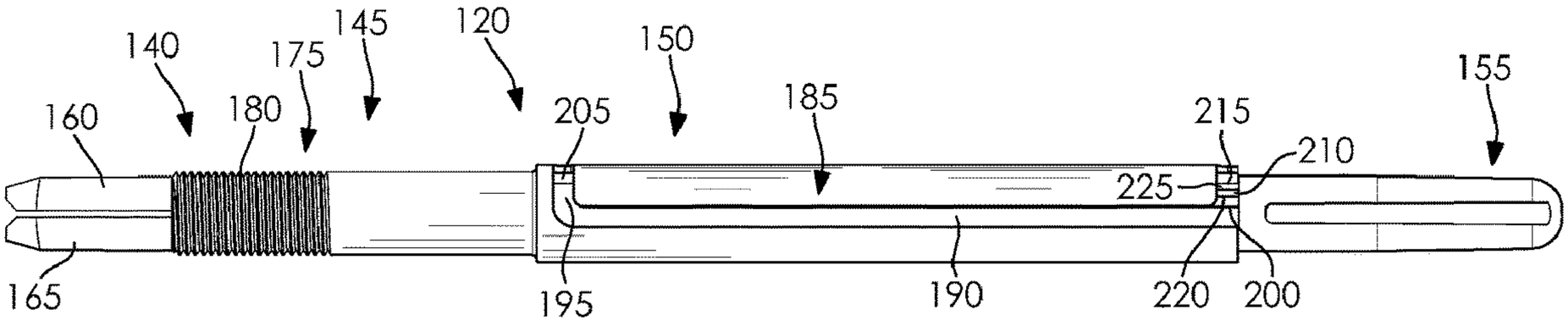
(57) **ABSTRACT**

A cutting device is disclosed. The cutting device has a body member, a cutting member that is removably attachable to the body member, and a cover member that is movably disposed on the body member, the cover member including a protrusion. The body member has a recess configured to receive the protrusion. The recess includes a first portion extending in a first direction and a second portion extending in a second direction that is different from the first direction.

14 Claims, 8 Drawing Sheets



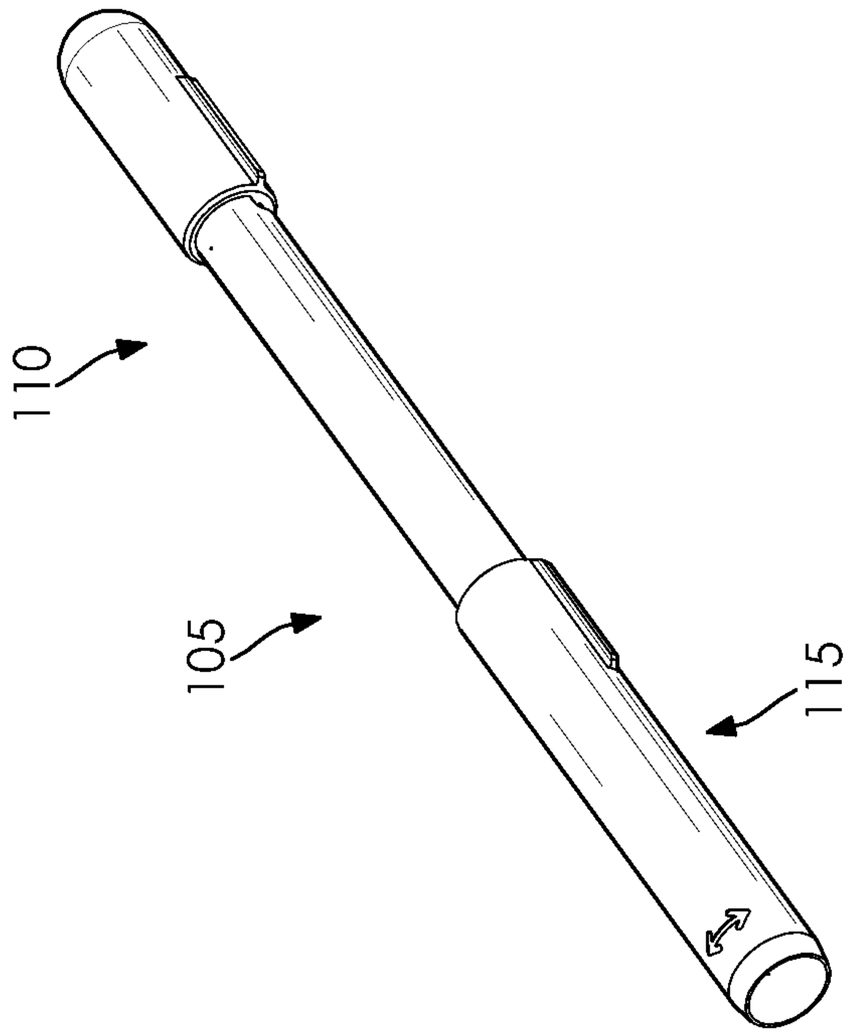


FIG. 1

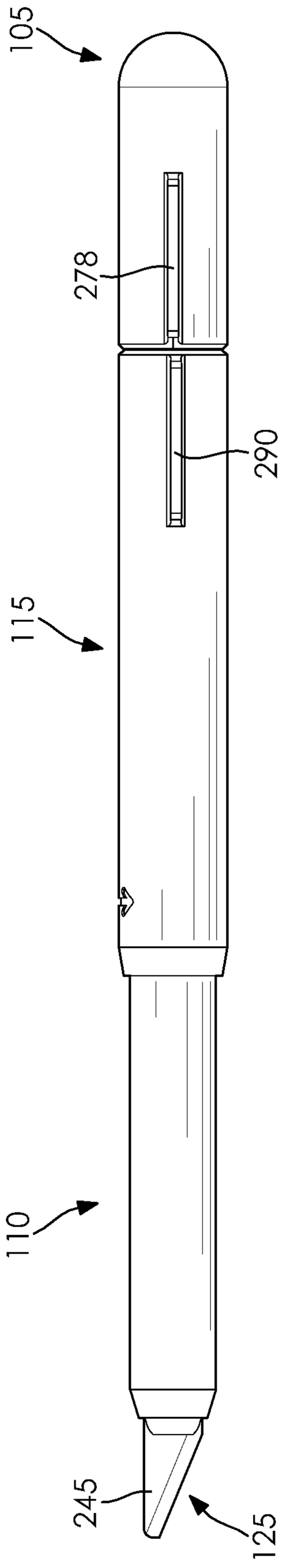


FIG. 2

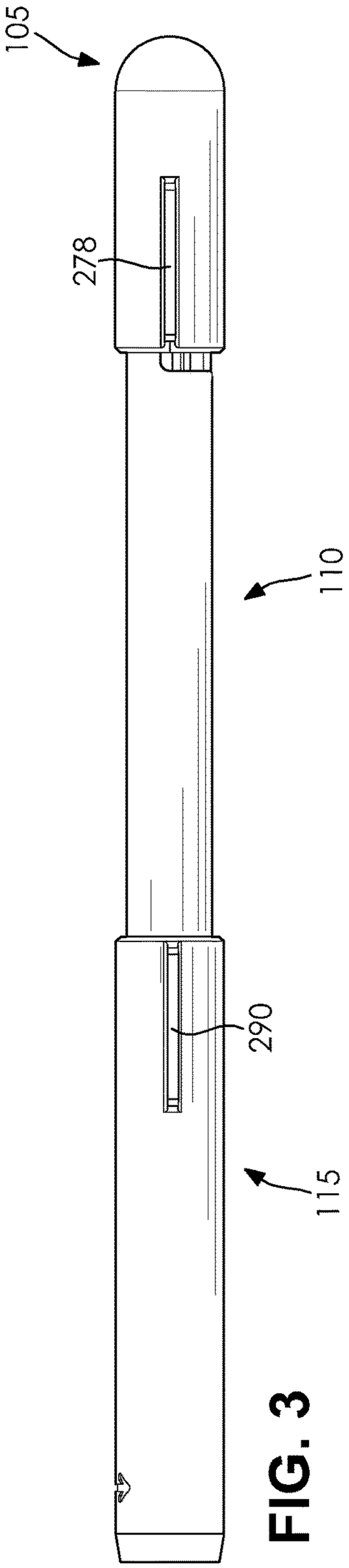


FIG. 3

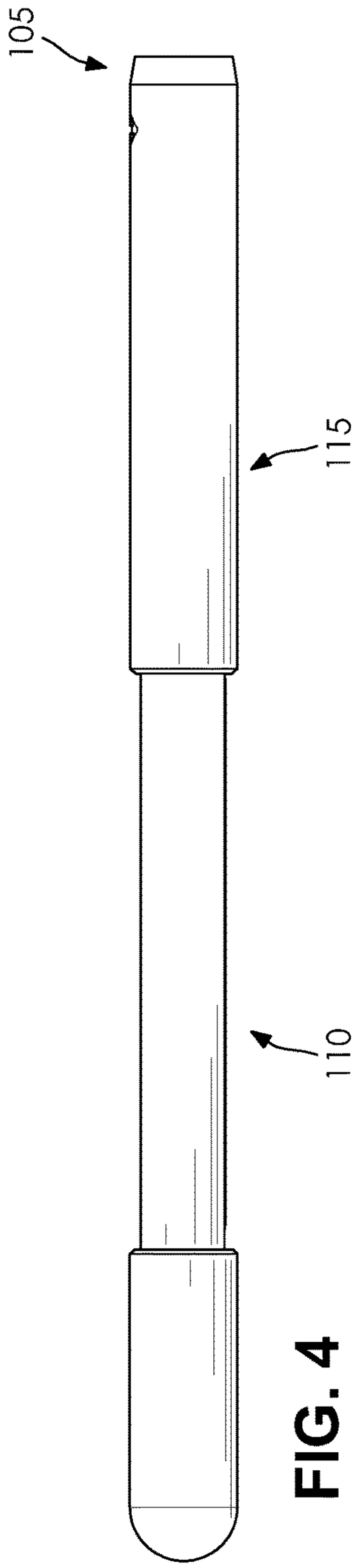


FIG. 4

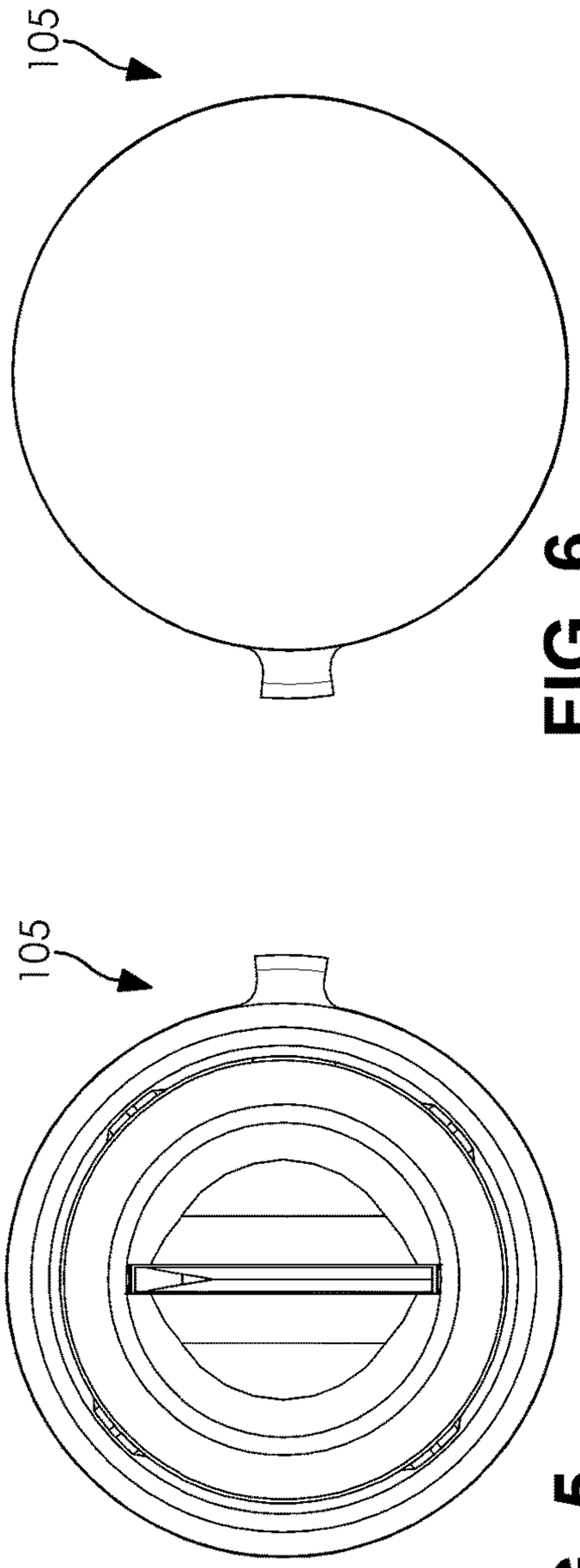


FIG. 6

FIG. 5

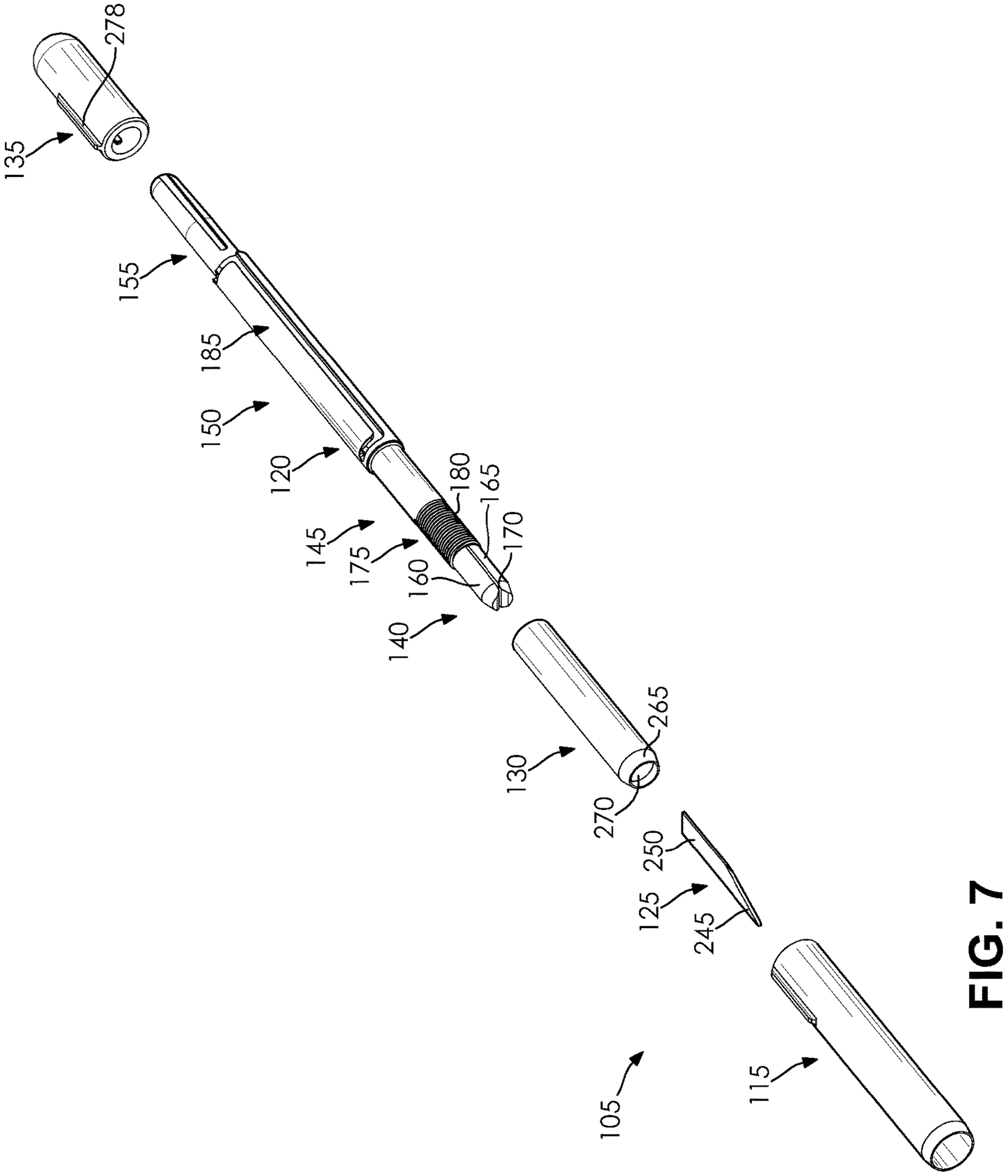

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FIG. 7

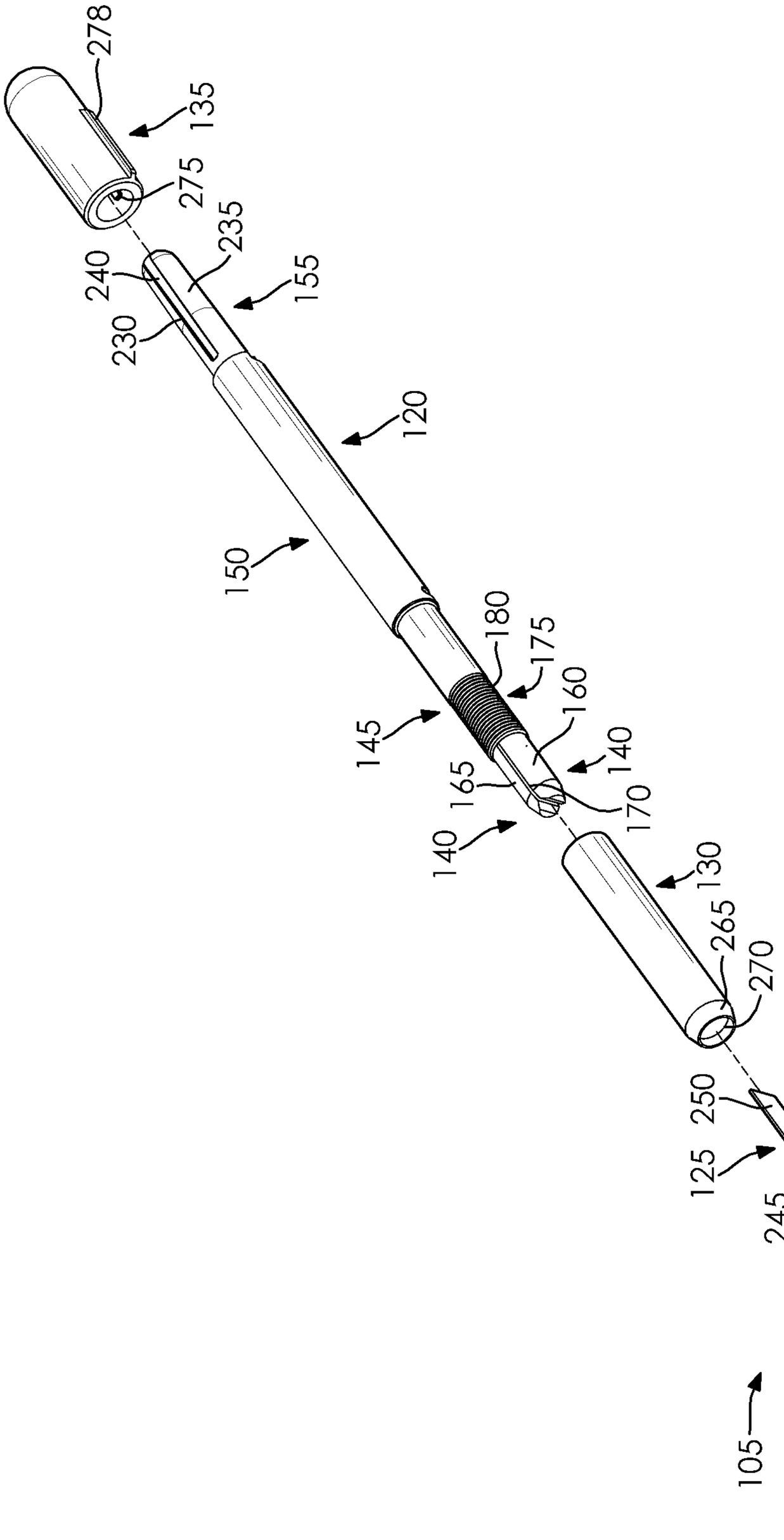
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FIG. 8

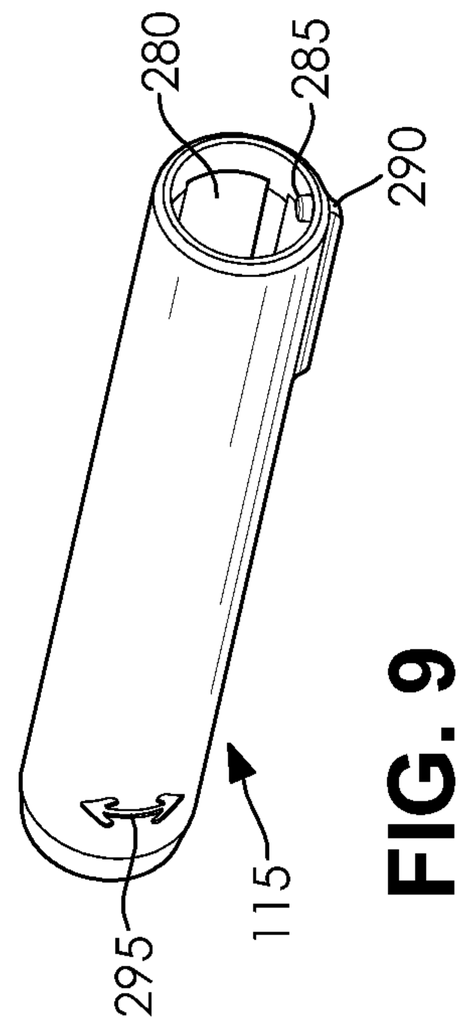
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FIG. 9

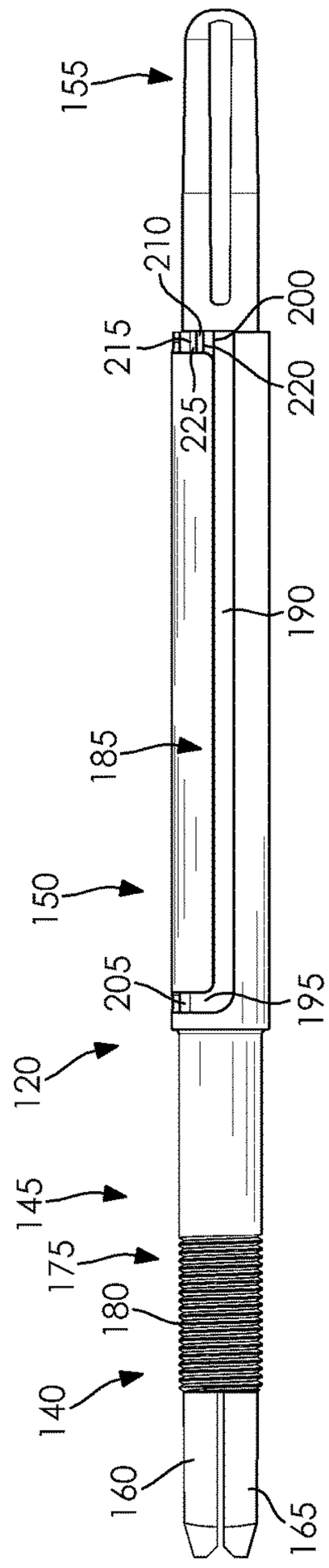

FIG. 10

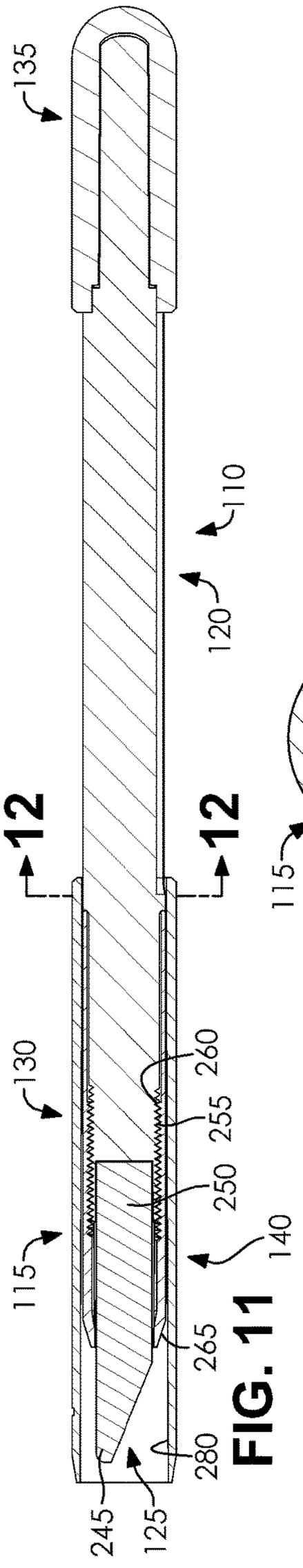

FIG. 11

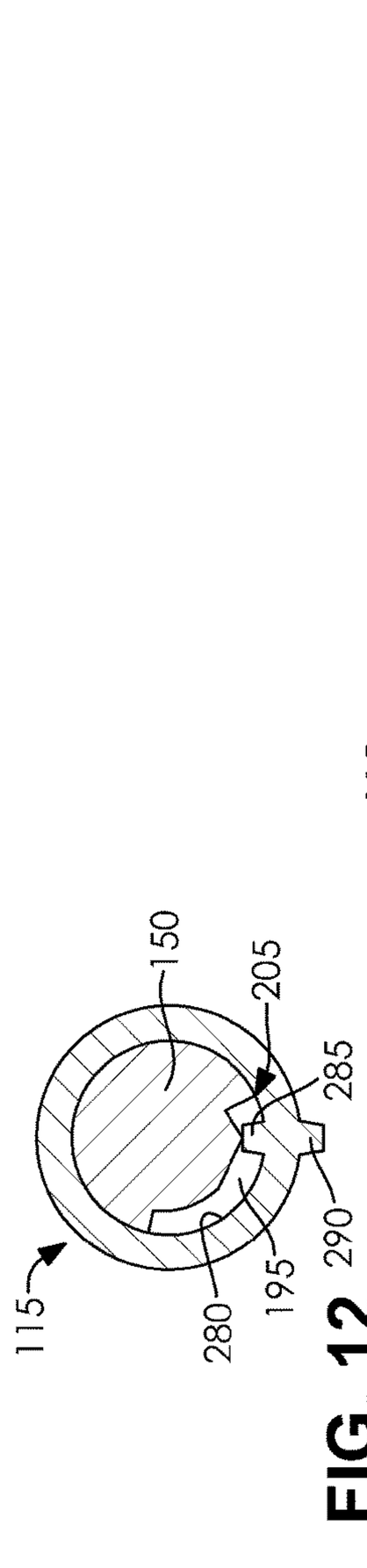

FIG. 12

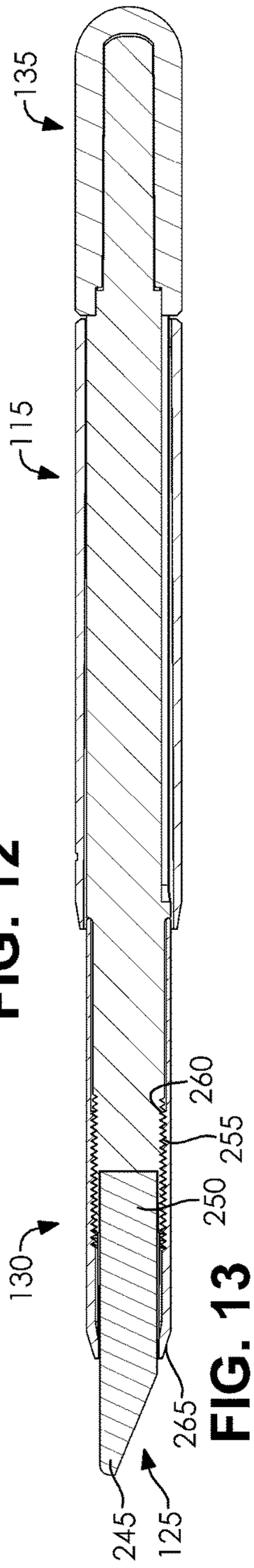

FIG. 13

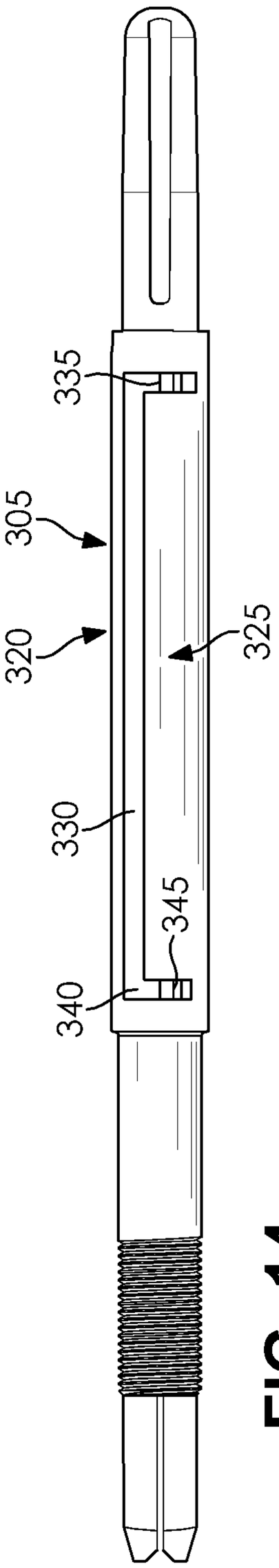

FIG. 14

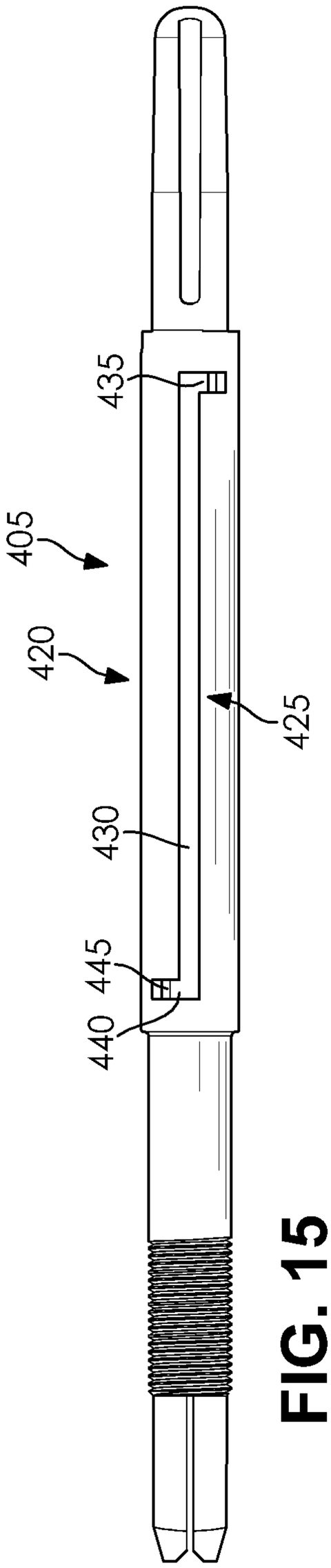

FIG. 15

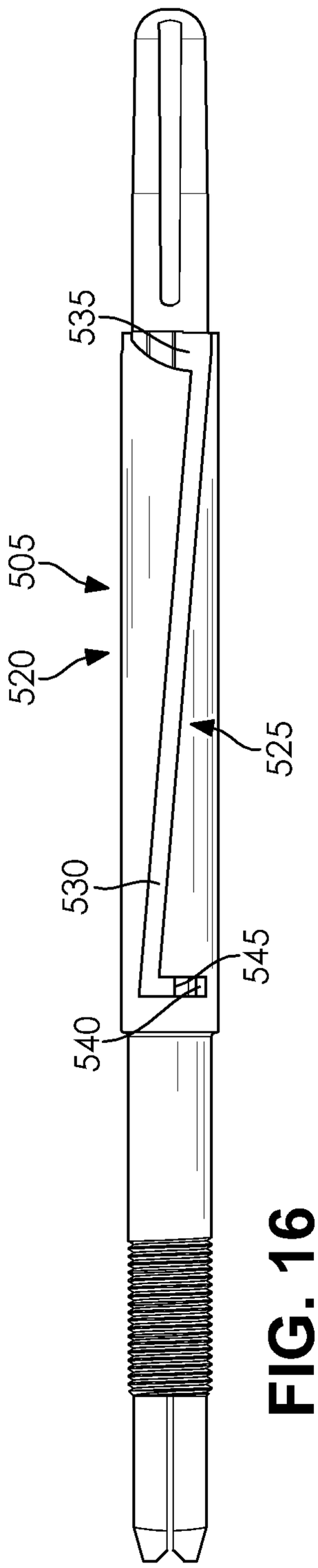

FIG. 16

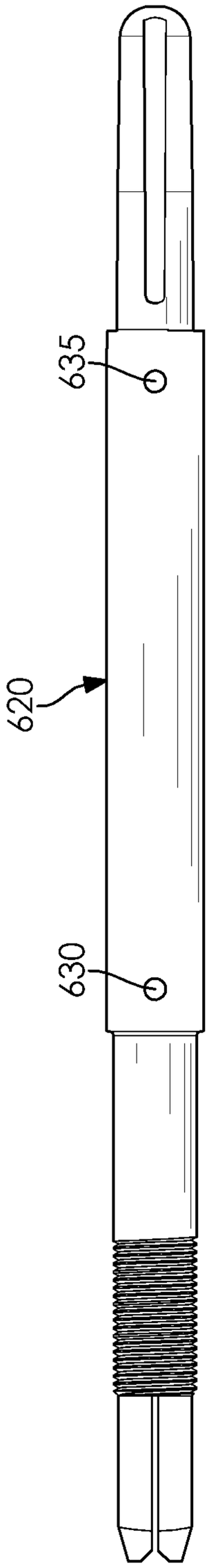

FIG. 17

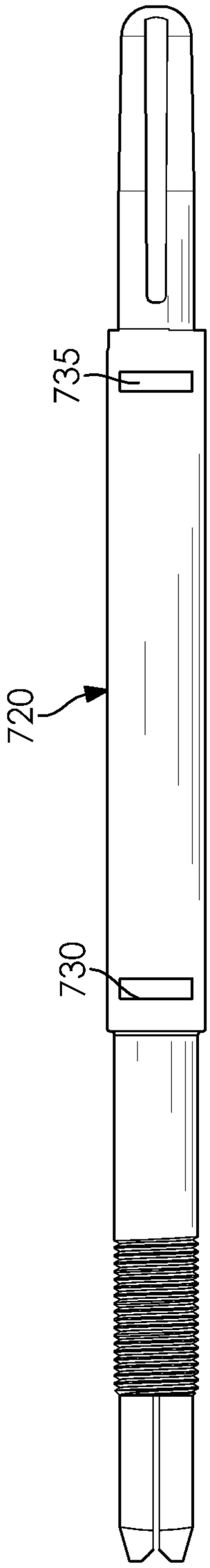

FIG. 18

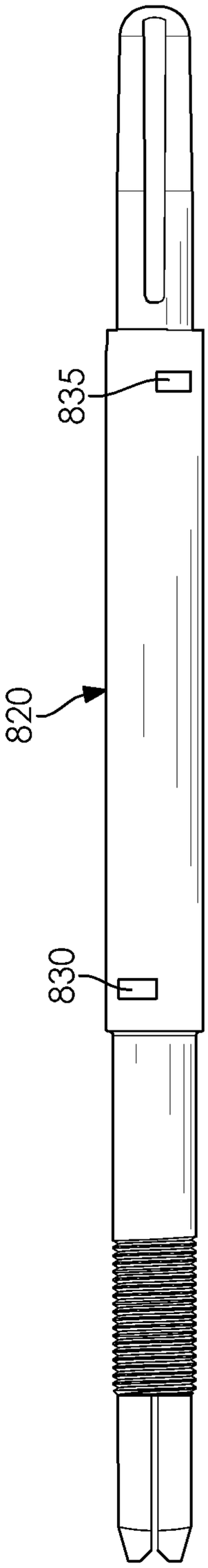

FIG. 19

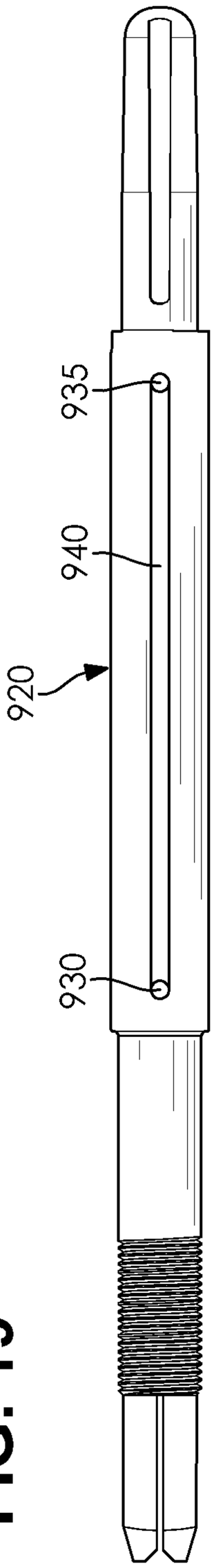

FIG. 20

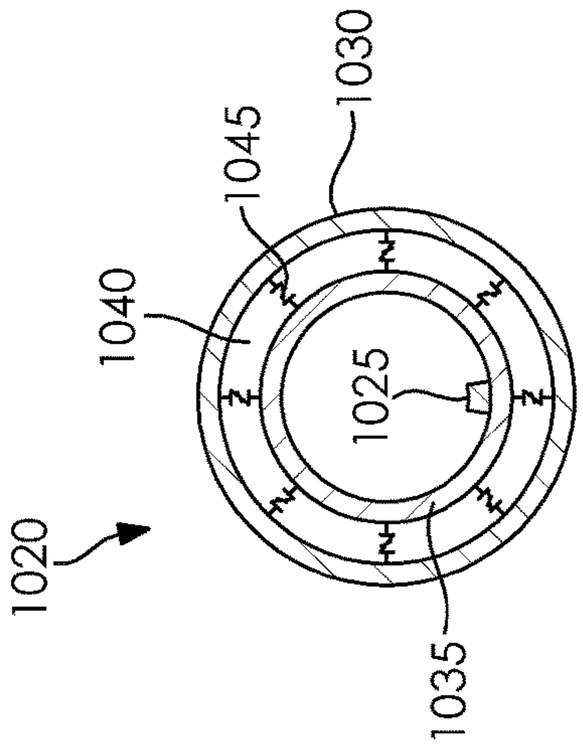

FIG. 22

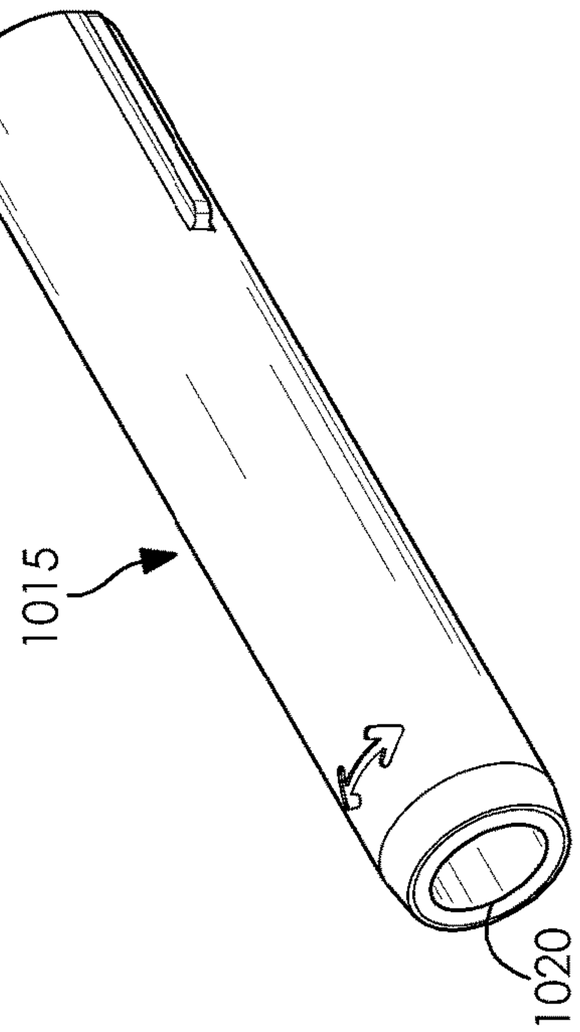

FIG. 21

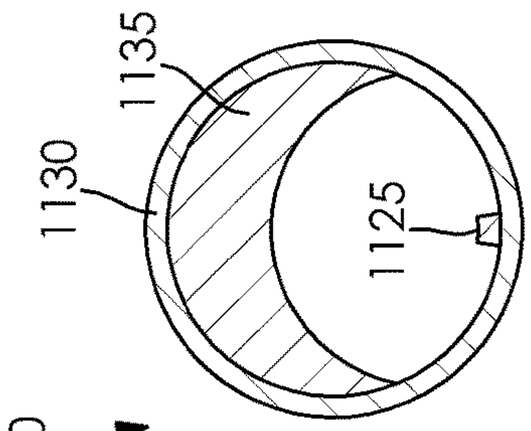

FIG. 24

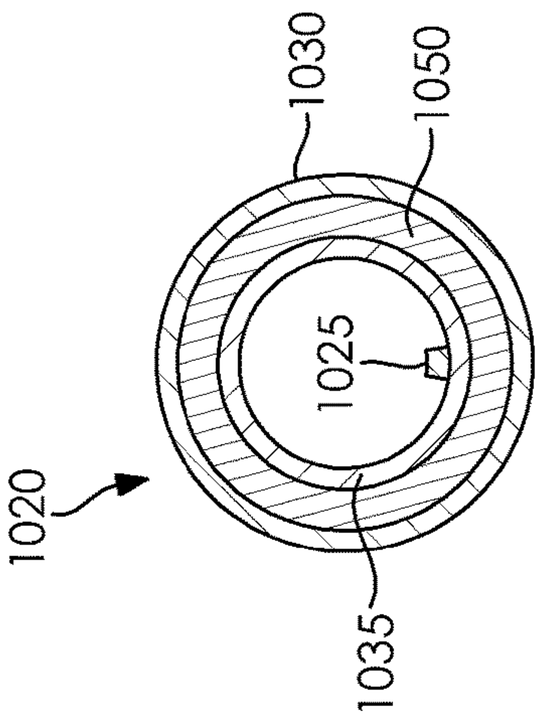

FIG. 23

CUTTING DEVICE

RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Patent Application Ser. No. 62/482,539 filed Apr. 6, 2017, which is hereby incorporated by reference in its entirety.

TECHNICAL FIELD

The present disclosure generally relates to a cutting device, and more particularly to a cutting device having a movable cover member.

BACKGROUND

Craft knives such as pen cutters are familiar tools to many people due to their convenient size and ease of use. Typical pen cutters have the shape and dimensions of a pen, e.g. a generally straight "handle", with a short blade at its tip. Unlike e.g. carving knives, craft knives are intended for shorter duration of use, to cut various materials such as sheets of paper, felt, or plastic, e.g. for various craft projects. Many pen cutters come with a detachable safety cap that covers the blade when the pen cutter is not in use. This creates a hazardous situation in two instances. First, when the pen cutter is temporarily being set aside for brief periods during a longer project, the blade remains exposed as it is inconvenient to replace the cap each time the cutter is used. Second, the fact that many pen cutters have a detachable cap means that the cap typically becomes separated from the pen cutter itself during use, and is thus easily lost. Both situations temporarily or permanently leave a pen cutter with an exposed blade, and an increased risk for accidental cuts and injuries to materials, objects or persons results.

Therefore, there is a need in the art for a craft knife with increased safety functionality that is easy to use and that prevents the blade from being unnecessarily exposed. The exemplary disclosed cutting device and method of the present disclosure is directed to overcoming one or more of the shortcomings set forth above and/or other deficiencies in existing technology.

SUMMARY OF THE DISCLOSURE

In one exemplary aspect, the present disclosure is directed to a cutting device. The cutting device includes a body member, a cutting member that is removably attachable to the body member, and a cover member that is movably disposed on the body member, the cover member including a protrusion. The body member includes a recess configured to receive the protrusion. The recess includes a first portion extending in a first direction and a second portion extending in a second direction that is different from the first direction.

In another aspect, the present disclosure is directed to a method. The method includes removably attaching a cutting member to a body member. The method also includes moving a cover member in a first direction along a length of the body member between a first position covering the cutting member and a second position uncovering the cutting member. The method further includes moving the cover member in a second direction that is different from the first direction at the first position or the second position.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **2** is a side view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **3** is a side view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **4** is a side view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **5** is a front view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **6** is a back view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **7** is an exploded view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **8** is an exploded view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **9** is a perspective view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **10** is a side view of a component of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **11** is a sectional view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **12** is a sectional view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **13** is a sectional view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **14** is a side view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **15** is a side view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **16** is a side view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **17** is a side view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **18** is a side view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **19** is a side view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **20** is a side view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **21** is a perspective view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **22** is a sectional view of an exemplary cutting device in accordance with an embodiment of the present invention;

FIG. **23** is a sectional view of an exemplary cutting device in accordance with an embodiment of the present invention; and

FIG. **24** is a sectional view of an exemplary cutting device in accordance with an embodiment of the present invention.

DETAILED DESCRIPTION AND INDUSTRIAL APPLICABILITY

FIGS. **1-6** illustrate an exemplary cutting device **105**. The exemplary cutting device disclosed herein may be any suitable device for cutting material such as, for example, a craft knife, a seam ripper, a box cutter, a utility knife, or a precision knife. For example, cutting device **105** may be a craft knife such as a pen cutter or similar cutting device. For example, FIG. **1** illustrates a perspective view of exemplary cutting device **105**, FIGS. **2-4** illustrate side views of exemplary cutting device **105**, FIG. **5** illustrates a front view of exemplary cutting device **105**, and FIG. **6** illustrates a rear view of exemplary cutting device **105**.

Cutting device **105** may include a body assembly **110** and a cover member **115**. Cover member **115** may be movably disposed on body assembly **110**.

The exemplary cutting device may be constructed from any suitable variety of durable materials. For example, some or most of the components of the exemplary cutting device may be formed from plastic or a plastic composite material. Also for example, some or most of the components of the exemplary cutting device may be formed from metal or metal alloy. Further for example, the exemplary cutting device may include ceramic material. For example, cutting device **105** may be formed from plastic, plastic composite, metal, metal alloy, and/or ceramic materials. For example, cutting device **105** may be formed from a variety of materials disclosed herein. For example, body assembly **110** and/or cover member **115** may be formed partially or substantially entirely from plastic, plastic composite, wood, metal, metal alloy materials, and/or polymers. For example, body assembly **110** and/or cover member **115** may be plastic or metal structural members. One or more weights included in body assembly **110**, described further below, may be formed for example from relatively dense material such as metal material. As described further below, body assembly **110** and/or cover member **115** may include components formed from plastic, plastic composite, metal, and/or metal alloy materials and components formed from ceramic materials. Also for example, certain components of cutting device **105** may include specific materials based upon the application or function of a given component. For example, members of cutting device **105** designed to come into contact with a cutting surface and that may be subject to constant friction may include materials resistant to friction such as glass-filled nylon and/or polyamide plastic. For example, cutting device **105** may include any suitable materials for use in a cutting device such as, e.g., a seam ripper, a box cutter, a utility knife, or a precision knife.

Body assembly **110** and/or cover member **115** may provide, for example, a handle for cutting device **105** for use by a user. For example, body assembly **110** and/or cover member **115** may act as craft knife handle (e.g., a pen cutter handle), a seam ripper handle, or a handle of a box cutter, utility knife, or precision knife. For example, cover member **115** may act as a substantially hollow housing configured to receive portions of body assembly **110** as well as additional components such as the exemplary components described herein. For example, body assembly **110** and/or cover member **115** may have a substantially circular cylindrical shape. Also for example, body assembly **110** and/or cover member **115** may be any other suitable shape such as, for example, circular cylindrical, elliptic cylindrical, octagonal cylindrical, rectangular cylindrical, and/or a substantially regular tube shape, e.g., a square, triangular, hexagonal, and/or octagonal shape.

As illustrated in FIGS. **7** and **8**, body assembly **110** may include a body member **120**, a cutting member **125**, a member **130**, and a rear member **135**. Cutting member **125** may be removably attachable to body member **120**, and member **130** may be attached to body member **120**. Rear member **135** may be attachable (e.g., removably attachable or attached in a fixed manner) to body member **120**.

As illustrated in FIG. **10**, body member **120** may include an attachment portion **140**, an attachment portion **145**, an attachment portion **150**, and an attachment portion **155**. Attachment portions **140**, **145**, **150**, and **155** may be used to attach components of cutting device **105** to body member **120** as disclosed for example herein. Body member **120** may be for example a substantially solid member, substantially hollow member, or member having both substantially solid and hollow portions.

As illustrated in FIGS. **7** and **8**, attachment portion **140** may be disposed at an end portion of body member **120**. Attachment portion **140** may include a member **160** and a member **165** that may extend from attachment portion **145**. For example, members **160** and **165** may be integral with other portions of body member **120** (e.g., integral with attachment portion **145**) and/or attached to other portions of body member **120** (e.g., attached to attachment portion **145**). Members **160** and **165** may be disposed (for example disposed parallel to each other) so that a cavity **170** is formed between members **160** and **165**. As disclosed for example herein, a portion of cutting member **125** may be received in cavity **170** between members **160** and **165** so that cutting member **125** is removably attachable to attachment portion **140**. For example, members **160** and/or **165** may include protrusions (e.g., or recesses) on a surface facing (e.g., forming) cavity **170** that may be received by corresponding apertures (e.g., or recesses) disposed on cutting member **125** so that cutting member **125** is removably attachable to attachment portion **140** of body member **120**.

As illustrated in FIGS. **7**, **8**, and **10**, attachment portion **145** may be disposed between attachment portions **140** and **150**. For example, attachment portion **145** may be integral with other portions of body member **120** (e.g., integral with attachment portions **140** and/or **150**) and/or attached to other portions of body member **120** (e.g., attached to attachment portions **140** and/or **150**). Attachment portion **145** may include an attachment section **175** to which member **130** may be attached (e.g., removably or substantially fixedly attached). Attachment section **175** may be any suitable attachment device for attaching (e.g., removably or substantially fixedly attaching) member **130** to attachment portion **145**. For example, attachment section **175** may include a threaded fastener, a friction-fit attachment device, a snap-fit attachment device, an adhesive attachment device, a hook and loop system fastener, and/or any suitable mechanical fastener. For example, attachment section **175** may be a threaded fastener having a plurality of connectors **180** that may be for example threads. For example as disclosed herein, connectors **180** may be received by corresponding connectors disposed on an interior surface of member **130**.

As illustrated in FIGS. **7**, **8**, and **10**, attachment portion **150** may be disposed between attachment portions **145** and **155**. For example, attachment portion **150** may be integral with other portions of body member **120** (e.g., integral with attachment portions **145** and/or **155**) and/or attached to other portions of body member **120** (e.g., attached to attachment portions **145** and/or **155**). Attachment portion **150** may include a recess **185**. Recess **185** may include an aperture, hole, groove, channel, slot, cavity, and/or any other suitable recess for receiving a portion of cover member **115** as disclosed for example herein. For example, recess **185** may be any suitable recess to allow a portion of cover member **115** to fit into and slide within (e.g., and be guided by) recess **185** to allow cover member **115** to move along body member **120** (e.g., to allow cover member **115** to slide along a longitudinal axis of body member **120** and/or to rotate about body member **120**). For example, one or more portions of recess **185** may be about 1-2 mm wide and about 0.5-5 mm deep, e.g., about 1.1, 1.2, 1.3 or 1.5 mm or more wide, and e.g. about 1-1.5 mm, 1.5-2 mm, or about 2-3 mm deep. A depth of recess **185** may for example vary, with portions of recess **185** being an additional 0.25-2 mm deep (e.g., an additional 0.5-1.5 mm deep). Recess **185** may be formed

depending on a method of manufacture of body member **120**, e.g. by additive or reductive manufacturing (e.g., machining) or by suitably configuring a mold (e.g. with a raised "negative" of recess **185** prior to injection molding). For example, when body member **120** is a substantially or partially solid member, recess **185** may be a channel or groove formed in a surface portion of attachment portion **150**. Also for example, if body member **120** is substantially or partially hollow (e.g. a hollow housing such as for example a hollow cylinder), then depending on a thickness of an exterior wall of attachment portion **150**, recess **185** may be a surface channel and/or an opening in the exterior wall of attachment portion **150**. Body member **120** may be formed with recess **185** during manufacturing. Also for example, body member **120** may be manufactured without recess **185**, and then recess **185** may be formed after body member **120** is manufactured (e.g., formed by removing material from body member **120** using suitable tools or techniques such as by carving, drilling, piercing, grooving, grinding, and/or machining, depending for example on the material of body member **120**). It is also contemplated that some or all of recess **185** may be formed at other portions of body member **120** (e.g., attachment portions **140**, **145**, and/or **155** and/or cover member **115**, member **130**, or rear member **135**).

Recess **185** may have any suitable configuration for receiving and/or guiding a portion of cover member **115**. For example, recess **185** may have any suitable configuration shape, number of portions, width, length, and depth, which may for example vary at various portions of recess **185**. The exemplary embodiments disclosed herein illustrate a number of examples of the many configurations of recess **185** that may be provided on body member **120**. For example, portions of recess **185** may be part of an integral recess **185** (e.g., recess **185** may be a continuous recess) or one or more portions of recess **185** may be located separately from other portions of recess **185** (e.g., recess **185** may be a discontinuous recess having portions that are separate and not continuous with other portions of recess **185**).

For example as illustrated in FIG. **10**, recess **185** may have a portion **190**, a portion **195**, and a portion **200**. For example, portion **190** may extend in a first direction and portions **195** and **200** may extend in a second direction that is different from the first direction. For example, portion **190** may extend in a first direction that is a longitudinal direction extending along a length of body member **120** and/or cutting device **105**. For example, portion **190** may extend in a first direction that is substantially perpendicular (or e.g., at an angle from such as at an angle between 45 degrees and 90 degrees or perpendicular, between 30 degrees and 60 degrees, between 15 degrees and 75 degrees, and/or any suitable angle). Also for example, portions **195** and **200** may extend in a substantially radial direction extending radially about a longitudinal centerline of body member **120** and/or cutting device **105**. For example, recess **185** may include a first portion (e.g., portion **190**) extending in a first direction and a second portion (e.g., portion **195** and/or **200**) extending in a second direction that is different from the first direction. Also for example, cover member **115** may be movably disposed on the body member (e.g., body assembly **110**) between a first position covering exemplary cutting member **125** and a second position uncovering exemplary cutting member **125**. Also for example, the first direction may be substantially perpendicular to the second direction. Further for example, the first direction may be a longitudinal direction extending along a length of cutting device **105**. Also for example, the second direction may be a radial direction extending radially about a longitudinal centerline of cutting device **105**. Additionally for example, recess **185** may include a third portion (e.g., portions **195** and/or **200**) extending in the second direction, wherein the first portion (e.g., portion **190**) may be disposed between the second portion and the third portion.

Portions of recess **185** may for example include protrusions. For example, portions **190**, **195**, and/or **200** may include protrusions disposed within recess **185**. For example, a protrusion **205** may be disposed within portion **195** and a protrusion **210** may be disposed within portion **200**. For example, protrusion **205** may be disposed at any location of portion **195** such as a central portion of portion **195**. Also for example, protrusion **210** may be disposed at any location of portion **200** such as a central portion of portion **200**. Protrusions **205** and **210** may for example be raised portions of recess **185** that may not be as deep as other portions of recess **185**. Protrusions **205** and **210** may for example each have a raised central portion **225** with sloped surfaces **215** and **220** on either side. For example, portions **205** and **210** may each be two-sided ramps with sloped surfaces **215** and **220** leading up from recess **185** to either side of central portion **225**. For example, central portion **225** may be a crown having a flat, rounded, or angular top (e.g., apex), with surfaces **215** and **220** leading up on either side to central portion **225**.

As illustrated in FIGS. **7** and **8**, attachment portion **155** may be disposed at an end portion of body member **120**. For example, attachment portion **155** may be disposed on an opposite end of body member **120** as attachment portion **140**. For example, attachment portion **155** may be integral with other portions of body member **120** (e.g., integral with attachment portion **150**) and/or attached to other portions of body member **120** (e.g., attached to attachment portion **150**). Attachment portion **155** may include a member **230** and a member **235** that may for example be disposed parallel to each other, so that a cavity **240** is formed between members **230** and **235**. Also for example, members **230** and **235** may be integrally formed and cavity **240** may be an elongated aperture (e.g., groove) formed on attachment portion **155**. As disclosed for example herein, a portion of rear member **135** may be received in cavity **240** between members **230** and **235** so that rear member **135** is attachable (e.g., removably attachable or substantially fixedly attached) to attachment portion **155**. Also for example, members **230** and/or **235** may include protrusions (e.g., or recesses) on a surface facing (e.g., forming) cavity **240** that may be received by corresponding apertures (e.g., or recesses) disposed on portions of rear member **135** so that rear member **135** is attachable (e.g., removably attachable or substantially fixedly attached) to attachment portion **155** of body member **120**.

As illustrated in FIGS. **7**, **8**, and **11**, cutting member **125** of cutting device **105** may be any suitable blade or cutter for cutting of a material by cutting device **105**. For example, cutting member **125** may be formed from a ceramic material that is capable of withstanding extended use before becoming dull or unusable. For example, cutting member **125** may be a ceramic blade. For example, cutting member **125** may include ceramic materials such as Zirconium Oxide or any other suitable ceramic materials for use in a blade. For example, cutting member **125** may be a ceramic blade that may be an angled and/or hooked blade formed from Zirconium Oxide. Alternatively for example, cutting member **125** may be a metal blade or a blade formed from any suitable material than can be used for cutting materials. Cutting

member **125** may include rounded tips to reduce the chance of a user being cut unintentionally by cutting member **125**.

Cutting member **125** may include a portion **245** that may be used for cutting material. Portion **245** may be a relatively narrow portion (e.g., narrower relative the other portions of cutting member **125**) of cutting member **125** that may serve to cut material. Cutting member **125** may also include a portion **250** that may be received in cavity **170** between members **160** and **165** of attachment portion **140** so that cutting member **125** is removably attachable to attachment portion **140**. For example, portion **250** of cutting member **125** may include protrusions (e.g., or recesses) on surface facing members **160** and/or **165** that may be received by corresponding apertures (e.g., or recesses) disposed on cutting member **125** so that cutting member **125** is removably attachable to attachment portion **140** of body member **120**. For example, cutting member **125** may be secured by attachment portion **140** in any suitable manner, for example by friction fit, use of adhesive, a designated blade receptacle (e.g., cavity **170**), or any combination thereof. For example, cutting member **125** may be secured by a friction-fit formed between members **160** and/or **165** and portion **250** of cutting member **125** when cutting member **125** is received within cavity **170**. For example as illustrated in FIG. **11**, when cutting member **125** is placed inside member **130** and attached to attachment portion **140** (e.g., serving as a blade receptacle), cutting member **125** may be secured in such a manner as to substantially prevent cutting member **125** from becoming dislodged or otherwise falling out cutting device **105**. Also for example, adhesive may be additionally used to secure cutting member **125** to attachment portion **140**.

As illustrated in FIGS. **7**, **8**, and **11**, member **130** of cutting device **105** may be attached to attachment portion **145** of body member **120**. Member **130** may be for example a substantially or partially hollow member. Member **130** may include an attachment section **255** that can be attached (e.g., removably or substantially fixedly attached) to attachment section **175** of attachment portion **145**. Attachment section **255** may be any suitable attachment device for attaching (e.g., removably or substantially fixedly attaching) member **130** to attachment portion **145**. Attachment section **255** may be for example disposed on an interior surface of member **130**. For example, attachment section **255** may include a threaded fastener, a friction-fit attachment device, a snap-fit attachment device, an adhesive attachment device, a hook and loop system fastener, and/or any suitable mechanical fastener. For example, attachment section **255** may be a threaded fastener having a plurality of connectors **260** that may be for example threads. For example as disclosed herein, connectors **260** may be received by corresponding connectors **180** of attachment portion **145** of body member **120**.

Member **130** may have a portion **265** disposed at an end portion of member **130** forming an aperture **270**. As illustrated in FIGS. **7**, **8**, and **11**, cutting member **125** may be inserted into aperture **270** of member **130** to be attached to attachment portion **140**. As illustrated in FIG. **11**, an interior surface of portion **265** may help to support cutting member **125** when disposed within member **130**. Member **130** may thereby, together with attachment portion **140**, help to secure cutting member **125** within cutting device **105**. Also for example, adhesive may be used to attach member **130** to attachment portion **145** (e.g., to attach attachment section **255** to attachment section **175**). It is also contemplated that cutting member **125** may be shaped so that portion **265** may lock cutting member **125** in place on cutting device **105** when member **130** is fixed (e.g., threaded onto) attachment portion **145**. For example, it is contemplated that member **130** may be removably attached to attachment portion **145** to selectively lock cutting member **125** to attachment portion **145** of body member **120**.

As illustrated in FIGS. **7**, **8**, and **11**, rear member **135** of cutting device **105** may be attached (e.g., removably or substantially fixedly attached) to attachment portion **155** of body member **120**. Rear member **135** may be for example a substantially or partially hollow member. Rear member **135** may include an attachment portion **275** disposed at an interior surface of rear member **135** that can be received in cavity **240** of attachment portion **155**. Attachment portion **275** may be for example a protrusion (e.g., an elongated protrusion) that can be received in cavity **240** that is a groove or an elongated, flat member that can be received between members **230** and **235** of attachment portion **155** when cavity **240** is an open cavity formed between members **230** and **235**. Also for example, adhesive may be additionally used to attach rear member **135** to attachment portion **155**. Rear member **135** may also be attached (e.g., removably or substantially fixedly attached) to attachment portion **155** by any other suitable technique such as a threaded fastener, a friction-fit attachment device, a snap-fit attachment device, an adhesive attachment device, a hook and loop system fastener, and/or any suitable mechanical fastener. Rear member **135** may also include a protrusion **278** that may be disposed on an exterior surface of rear member **135**. Protrusion **278** may help a user of cutting device **105** to determine whether cover member **115** is in a locked or unlocked position as described further below (e.g., based on a movement such as a rotation of cover member **115** relative to body assembly **110**).

As illustrated in FIGS. **7**, **8**, and **11**, cover member **115** may be movably disposed on body assembly **110** (e.g., movably disposed on body member **120** and member **130** of body assembly **110**). Cover member **115** may be any suitable housing such as a substantially hollow or partially hollow member. For example, cover member **115** may be a cover (e.g., sheath) that is movably disposed on cutting device **105**. For example, cover member **115** may encircle or surround a portion of body assembly **110**. For example, cover member **115** may partially or completely circumferentially surround a portion of body assembly **110**. For example, cover member **115** may be shaped so that an interior surface **280** of cover member **115** may fit (e.g., closely fit) contours of body assembly **110**. For example, cover member **115** and/or body assembly **110** (e.g., member **130** and/or body member **120**) may be shaped so that cover member **115** may slide (e.g., smoothly slide) over body assembly **110** between a first position covering cutting member **125** and a second position uncovering cutting member **125** (e.g., including any position between the first and second position). For example (e.g., as illustrated in FIGS. **11-13**), cover member **115** may have an inner circumference (e.g., formed by interior surface **280**) that may be configured to match or be slightly larger than an outer circumference of body assembly **110**. For example, interior surface **280** of cover member **115** may substantially match a geometrical shape formed by exterior surfaces of body assembly **110** so that cover member **115** may move between the first and the second position. For example, cover member **115** may be a circular cylindrical cover member (e.g., sheath) that slidably covers body assembly **110** that may be a circular cylindrical body. Also for example, cover member **115** may be an elliptical cover member (e.g., sheath) that slidably covers body assembly **110** that may be an elliptical cylindrical body. Similarly for example, cover member **115**

may be an octagonal shape or any other suitable shape that slidably covers body assembly **110** that may have an octagonal cylindrical body or any other suitably correspondingly-shaped body (e.g., correspondingly square-shaped or rectangular-shaped). Cover member **115** may be, for example, formed from a material that is transparent and/or translucent so that a location of cutting member **125** may be visible to a user of cutting device **105**.

As illustrated in FIG. **9**, cover member **115** may include a protrusion **285**. Protrusion **285** may be any suitable protrusion or portion of material such as, for example, a flexible protrusion, a rigid protrusion, a pin, a locking pin, and/or a rocker. Protrusion **285** may be formed integrally with cover member **115** and may be a similar material as cover member **115** (e.g., of similar material as the material forming surface **280**). Also for example, protrusion **285** may be attached to cover member **115** and may be formed from a similar or different material than cover member **115**. Also for example, protrusion **285** may be provided as part of an insert piece that may be attached to surface **280**. For example, as disclosed in the exemplary embodiments herein, protrusion **285** may be formed of substantially rigid material (e.g., inelastic, inflexible, and/or solid material similar to other disclosed material of cutting device **105** such as plastic, metal, and composite material disclosed herein) and provided as part of an insert assembly (e.g., as disclosed below in FIGS. **21-24**). For example, protrusion **285** formed from substantially rigid material may act as a rocker as disclosed below. Also for example, protrusion **285** may be formed from substantially flexible material (e.g., elastic material, elastomeric material, natural rubber, synthetic rubber, thermoplastic elastomers, or any other suitable type of material having elastic properties). Cover member **115** may also include a protrusion **290** that may be disposed on an exterior surface of cover member **115**. Protrusion **290** may help a user of cutting device **105** to determine whether cover member **115** is in a locked or unlocked position as described further below (e.g., based on a movement of cover member **115** such as rotation relative to body assembly **110**). Cover member **115** may also have an indicator **295** that may indicate to a user of cutting device **105** that cover member **115** may be rotated during the operation of cutting device **105** as described further below.

As illustrated in FIGS. **11-13**, protrusion **285** of cover member **115** may be received in recess **185** of body member **120**. As described further below, protrusion **285** may be moved within recess **185** based on a movement of cover member **115** by a user of cutting device **105**. As illustrated in FIG. **12** (a section view **12-12** taken through the illustration of FIG. **11**), protrusion **285** may be moved over (e.g., urged against and/or over) protrusion **205** (e.g., or protrusion **210**) disposed in recess **185**. For example, when a user moves and/or rotates cover member **115**, protrusion **285** may be urged against and/or over surfaces **215** and **220** and portion **225** (e.g., a crown of protrusion **205** or **210**). As described further below, moving protrusion **285** of cover member **115** over protrusion **205** disposed in recess **185** may serve to lock and/or unlock cover member **115** on cutting device **105**.

As illustrated in FIGS. **10** and **14-16**, the exemplary cutting device may include recesses that provide for locking of the cutting device by twisting of an exemplary cover member. For example, the exemplary cutting device may be a mechanism that twists to lock (e.g., the cover member is twisted to lock the cutting device). As illustrated in the exemplary embodiments of FIGS. **10** and **14-16**, recesses may be configured with a bend at one or both of the end portions of the recess to provide one or a plurality of locking positions (e.g., two or more than two locking positions). For example, a recess may be "U" shaped, "Z" shaped, or any other suitable shape (e.g., in a view onto the top of the surface of the body member). For example, bends may be configured in a same or in an opposite direction relative to each other. For example, bends in the exemplary recesses may have angles at about 90° in the same direction ("U"), or in opposite directions ("Z"). Other steeper or less steep bend angles may be used such as, for example, between 45° and 135°, between 30° and 150°, or less steep angles such as, for example, between about 45° and 55°, between about 55° and 65°, between about 65° and 75°, between about 75° and 90°, between about 90° and 105°, between about **105** and 115°, between about **115** and 125°, and/or between about 125° and 135°.

For example, FIG. **14** illustrates an exemplary cutting device **305** that may include a body member **320** as well as other components similar to cutting device **105**. Body member **320** may include a recess **325** including a portion **330** extending in a longitudinal direction of cutting device **305** and portions **335** and **340** that may extend substantially perpendicularly (e.g., or at any suitable angle as disclosed above) to portion **330**. Protrusions **345** may be disposed in any suitable portion of recess **325**.

Also for example, FIG. **15** illustrates an exemplary cutting device **405** that may include a body member **420** as well as other components similar to cutting device **105**. Body member **420** may include a recess **425** including a portion **430** extending in a longitudinal direction of cutting device **405** and portions **435** and **440** that may extend substantially perpendicularly (e.g., or at any suitable angle as disclosed above) to portion **430**. Also for example, portions **435** and **440** may extend in substantially opposite direction to each other. Protrusions **445** may be disposed in any suitable portion of recess **425**.

Also for example, FIG. **16** illustrates an exemplary cutting device **505** that may include a body member **520** as well as other components similar to cutting device **105**. Body member **520** may include a recess **525** including a portion **530** extending at an angle (e.g., any suitable angle as disclosed above) relative to a longitudinal direction of cutting device **505** and portions **535** and **540** that may extend at any suitable angle as disclosed above to portion **530**. Also for example, portions **535** and **540** may extend in substantially opposite direction to each other. Protrusions **545** may be disposed in any suitable portion of recess **525**.

Also as for example as illustrated in FIG. **17**, an exemplary body member **620** may be configured with a plurality of apertures **630** and **635** (e.g., locking holes) for example at a first position and a second position (e.g., first and second locking positions of an exemplary cover member that may be similar to cover member **115**). For example, an exemplary cover member may be configured for locking and unlocking based on a user manually applying inward pressure (towards the center of body member **620**, e.g., perpendicular to an outer surface of body member **620**) to lock a protrusion (e.g., a protrusion similar to protrusion **285**) selectively in apertures **630** and **635**, and to unlock the exemplary protrusion (e.g., locking member) of the exemplary cover member by pushing the cover member (e.g. similar to cover member **115**) in an upwards or downwards direction along a longitudinal axis of body member **620** (e.g., so that the protrusion is pulled out of aperture **630** or **635**, either upwards and/or sideways, to be unlocked). For example, the exemplary protrusion (e.g., similar to protrusion **285** of cutting device **105**) may be formed from a

flexible material as disclosed above. Also for example, the exemplary cover member and protrusion (e.g., similar to cover member **115** and protrusion **285**) may be configured to provide movement away from a surface of body member **620**. For example, an exemplary body assembly may include a first recess (e.g., aperture **630**) disposed on a first half of the body member and a second recess (e.g., aperture **635**) disposed on a second half of the body member, the first and second recesses each configured to receive an exemplary protrusion (e.g., similar to protrusion **285** or any other suitable exemplary protrusion disclosed herein). Also for example, an exemplary cover member (e.g., similar to cover member **115**) may cover the exemplary cutting member when the exemplary protrusion is received in the first recess (e.g., aperture **630**), and the exemplary cover member may uncover the exemplary cutting member when the exemplary protrusion is received in the second recess (e.g., aperture **635**).

Further for example as illustrated in FIG. **18**, an exemplary body member **720** (e.g., which may be similar to body member **620**) may have apertures **730** and **735** that may be elongated recesses. Apertures **730** and **735** may include protrusions that may be similar to protrusions **205** and **210** of cutting device **105**.

Further for example as illustrated in FIG. **19**, an exemplary body member **820** (e.g., which may be similar to body member **620**) may have apertures **830** and **835** that may be elongated recesses that extend in opposite directions from each other. Apertures **830** and **835** may include protrusions that may be similar to protrusions **205** and **210** of cutting device **105**.

FIG. **20** illustrates an exemplary body member **920** that may be similar to body member **620**. Body member **920** may include a plurality of apertures **930** and **935** (e.g., locking holes) for example at a first position and a second position. Body member **920** may also include a recess **940** that may extend between apertures **930** and **935** (e.g., first and second locking positions of an exemplary locking member that may be similar to locking member **115**) and may serve as a slider mechanism. Recess **940** may be similar to portion **190** of cutting device **105** and may guide a movement of an exemplary protrusion that may be similar to protrusion **285** of cutting device **105**. For example, recess **940** may guide a movement of the exemplary protrusion (e.g., similar to protrusion **285**) so that the exemplary protrusion is not completely disengaged (e.g., pulled out of) recess **940** and apertures **930** and **935**. The exemplary protrusion may be locked at either apertures **930** or **935** by friction, e.g., without twisting or rotation of an exemplary cover member. For example, a steepness of a surface of recess **940**, surface materials of body member **920**, surface materials of the exemplary protrusion received in recess **940** and apertures **930** and **935**, and/or the dimensions of recess **940** and the exemplary protrusion (e.g., a protrusion similar to protrusion **285**) may be configured to provide sufficient friction to allow a secure frictional attachment (e.g., frictional lock) at the first and second locking positions (e.g., at apertures **930** and **935**).

Also for example, the exemplary protrusion of the embodiment illustrated in FIG. **19** may be a (e.g., spring-loaded) protrusion that is urged by a spring or similar urging member toward body member **920**. A depth of apertures **930** and **935** may be greater than a depth of recess **940**. For example, the protrusion may be urged (e.g., by the spring-loading) into the relatively greater depth of apertures **930** and **935** so that the exemplary protrusion is selectively retained in apertures **930** or **935** (e.g., apertures **930** and **935** serve as relatively deeper pockets for locking the exemplary protrusion and cover member in place). Also for example, when a user pushes on the exemplary cover member, the exemplary protrusion may be urged out of apertures **930** or **935** to unlock the cover member and allow a movement of the cover member based on a movement of the exemplary protrusion being moved along recess **940** (e.g., that may be relatively shallower than apertures **930** and **935**).

FIGS. **21** and **22** illustrate an additional exemplary embodiment including a cover member **1015**. Cover member **1015** may include a member **1020** that may be for example an insert piece that may be removably attachable or attached in a fixed manner to an interior surface of cover member **1015**. Member **1020** may include a protrusion **1025** that may be similar to protrusion **285** of cover member. Member **1020** may include an exterior member **1030** and an interior member **1035** that may be formed for example from similar material to cover member **115**. A cavity **1040** may be disposed between and formed by exterior member **1030** and interior member **1035**. One or more urging members **1045** may be disposed within cavity **1040** and may be attached to members **1030** and **1035**. Urging member **1045** may be a potential-energy-storing member that can be stretched and unstretched and/or compressed and uncompressed such as, for example, a tension member and/or a compression member. For example, urging member **1045** may be a spring, an elastic member such as an elastic band, an elastic cable, an elastic wire, and/or any suitable member formed from materials having elastic or resilient properties and capable of being stretched and unstretched (e.g., or compressed and uncompressed). Urging member **1045** may be formed from any suitable materials for forming a tension member or a compression member (e.g., that can be stretched and unstretched, or compressed and uncompressed) such as metallic material, plastic material, composite material, elastomeric material, natural rubber, and/or synthetic rubber.

For example, protrusion **1025** may be received in an exemplary recess similar to recesses **185**, **325**, **425**, **525**, **630**, **635**, **730**, **735**, **830**, **835**, **930**, and/or **935**. Protrusion **1025** may be disengaged from the exemplary recess by applying pressure (e.g., sideways pressure or lateral pressure that is applied radially to protrusion **1025**) when sliding cover member **1015** between exemplary positions as disclosed for example herein. Also for example, protrusion **1025** may be locked at an exemplary position (e.g., a first locked position or a second locked position), but may be disengaged from an exemplary recess based on applying lateral pressure to member **1020**. For example, lateral pressure may cause urging members **1045** on one side of cavity **1040** to compress and may cause urging members on another (e.g., opposite) side of cavity **1040** to elongate, causing a displacement (e.g., shifting) of cover member **1015** relative to an exemplary body assembly similar to body assembly **110**. Also for example, the plurality of urging members **1045** may press protrusion **1025** towards an exemplary body assembly with sufficient force to cause protrusion **1025** to engage with an exemplary recess (e.g., recess **185**, **325**, **425**, **525**, **630**, **635**, **730**, **735**, **830**, **835**, **930**, and/or **935**) to lock cover member **1015** into position. Also for example, the plurality of urging members **1045** may be flexible enough to allow protrusion **1025** to disengage and slide out of the exemplary recess as a user applies lateral pressure when for example sliding cover member **1015** between desired positions. The above-disclosed operation may be performed by any suitable configuration of an exemplary cover member such as, for example, a cover member including an insert piece having a rocker, small bent thin metal rod, and/or

compressible or flexible materials. For example, any suitable configuration may be used that directs suitable force to protrusion **1025** to lock the exemplary protrusion into an exemplary recess, but allows a lateral force to be applied to the exemplary protrusion when sliding the exemplary cover member (e.g., perpendicular for example at about a 90° angle to the longitudinal axis of the exemplary protrusion such as protrusion **1025**), to allow the exemplary protrusion to slide out of the exemplary recess and to unlock. For example, FIGS. **23** and **24** illustrate additional embodiments of exemplary members that may operate generally similarly to member **1020**. For example as illustrated in FIG. **23**, a flexible or compressible material **1050** may be disposed between members **1030** and **1035** that may operate similarly to one or more urging members **1045**. Flexible or compressible material **1050** may be any suitable material having elastic or resilient properties and capable of being stretched and unstretched (e.g., or compressed and uncompressed) such as, for example, elastomeric material, natural rubber, and/or synthetic rubber. FIG. **24** illustrates an additional exemplary embodiment including a member **1120** having a protrusion **1125** and a member **1130**. As illustrated in FIG. **24**, flexible or compressible material **1135** that may be similar to material **1050** may be disposed (e.g., attached to) one side of member **1130** and may provide a similar operation as the exemplary embodiments disclosed above (e.g., may allow a displacement or movement of an exemplary cover member when lateral pressure is applied, thereby allow protrusion **1125** to be removably received in an exemplary recess). For example, members **1030** and/or **1035**, urging members **1045**, and/or material **1050** and/or **1135** may provide a flexible member for example that is disposed on an interior surface of the exemplary cover member, wherein an exemplary protrusion is disposed on either the flexible member or an interior surface of the exemplary cover member.

The exemplary cutting device may include a balancing weight configured within the body assembly of the cutting device. For example, the cutting device may be configured to retain a weight within a hollow cavity of the body assembly of the cutting device. For example, when the weight is placed inside the body assembly, the weight may be secured in such a manner as hold the weight in place (e.g., using a compression fit within an inner wall of the body and/or with use of adhesive). For example, the weight may be placed at an opposite end of the exemplary cutting member, thereby adding balance to the cutting device, helping a user to better control a cutting end of the cutting device, and/or improving the safety of the craft knife.

Many suitable methods and corresponding materials may be used to manufacture the exemplary cutting device. For example, the cutting device may be formed by 3D printing (also known as "additive" manufacturing), CNC machined parts (also known as "subtractive" manufacturing) and injection molding. Also for example, thermoplastic and thermosetting polymers and resins and elastomers, including e.g. polyethylene, polystyrene, polypropylene, epoxy resins and phenolic resins may be used in manufacturing the cutting device. Any suitable plastics, polymers, and resins may be selected and mixed (e.g., depending on desired strength and flexibility) for use in manufacturing. Examples of suitable thermoplastic materials for use in manufacturing of the exemplary cutting device may include, for example, Acrylanitrile Butadiene Styrene (ABS), Polycarbonate (PC), Mix of ABS and PC, Acetal (POM), Acetate, Acrylic (PMMA), Liquid Crystal Polymer (LCP), Mylar, Polyamid-Nylon, Polyamid-Nylon 6, Polyamid-Nylon 11, Polybutylene Terephthalate (PBT), Polycarbonate (PC), Polyetherimide (PEI), Polyethylene (PE), Low Density PE (LDPE), High Density PE (HDPE), Ultra High Molecular Weight PE (UHMW PE), Polyethylene Terephthalate (PET), PolPolypropylene (PP), Polyphthalamide (PPA), Polyphenylenesulfide (PPS), Polystyrene (PS), High Impact Polystyrene (HIPS), Polysulfone (PSU), Polyurethane (PU), Polyvinyl Chloride (PVC), Chlorinated Polyvinyl chloride (CPVC), Polyvinylidenefluoride (PVDF), Styrene Acrylonitrile (SAN), Teflon TFE, Thermoplastic Elastomer (TPE), Thermoplastic Polyurethane (TPU), Engineered Thermoplastic Polyurethane (ETPU), or any suitable combination thereof.

The exemplary disclosed device and method may provide an intuitively simple and safe technique for covering and uncovering a cutting member. The exemplary disclosed device and method may be used in any application involving maintaining a cover for covering a cutting device and avoiding loss of a cover for a cutting member (e.g., avoiding a situation in which a separate cover for a cutting device is lost or separated). For example, the exemplary cutting device and method may be used in applications such as pen cutters, seam rippers, box cutters, utility knives, precision knives, and any other suitable application for cutting materials.

An exemplary operation of cutting device **105** will now be described. As illustrated in FIG. **3**, cover member **115** may be disposed in a first position covering cutting member **125**. The first position may be a first locked position in which protrusion **285** is disposed in portion **195** of recess **185**. For example, protrusion **285** may be disposed at an end portion of portion **195** that is distal from portion **190** so that protrusion **205** is disposed between protrusion **285** and an end portion of portion **195** adjacent to portion **190**. Cover member **115** may be thereby locked into position based on a movement of protrusion **285** of cover member **115** being blocked (e.g., initially resisted by) protrusion **205**.

A user may move cover member **115** in a first direction (e.g., a longitudinal direction of cutting device **105**) and a second direction (e.g., radially about cutting device **105** and/or different from or substantially perpendicular to the first direction). For example, the user may lock and/or unlock the cover member as disclosed herein by moving (e.g., rotating) cover member **115** in the second direction. A user may move (e.g., rotate) cover member **115** relative to body assembly **110** to unlock cover member **115** from the first position. The user may rotate cover member **115** in a radial direction (e.g., perpendicular to the longitudinal direction of cutting member **105** and body assembly **110**) to move protrusion **285** within portion **195** of recess **185** and over protrusion **205**. For example, by rotating cover member **115**, protrusion **285** may be urged over the exemplary two-sided ramp (e.g., and crown) of protrusion **205** as disclosed above. For example, cover member **115** may be moved in the second direction (e.g., radial, rotational direction, and/or direction different from or substantially perpendicular to a first direction that may be a longitudinal direction of cutting device **105**) to move protrusion **285** over protrusion **205** (e.g., similar to moving over protrusion **210**). After the user urges protrusion **285** over protrusion **205**, protrusion **285** may be positioned to move freely along a remainder of portion **195** and into portion **190** of recess **185**. Also for example as disclosed herein in other exemplary embodiments, cover member **115** may be locked and unlocked in any other suitable manner (e.g., as disclosed regarding FIGS. **17-24**). The user may continue to rotate cover member **115** until protrusion **285** is disposed at a portion of recess **185** at which portion **195** meets with or connects to portion

190. At this point, the user may then move cover member 115 in a substantially longitudinal direction along recess 190 (e.g., or in the case of other exemplary embodiments along recess 330, 430, 530, and/or 940).

When protrusion 285 has been moved to a location of recess 185 where portion 190 meets with (e.g., is connected to) portion 200, the user stops moving cover member 115 longitudinally along cutting device 105 (e.g., the user will feel that movement is no longer available further in the longitudinal direction based on protrusion 285 reaching an end of portion 190). The user may then rotate cover member 115 in a radial direction to move protrusion 285 along portion 200. In some exemplary embodiments the direction of rotation may be opposite (e.g., as illustrated in FIGS. 10 and 14) to unlocking and locking at the first position covering cutting member 125 and in some exemplary embodiments the direction of rotation at or near both of the first and second positions may be substantially the same (e.g., as illustrated in FIGS. 15 and 16). Rotation of cover member 115 may be, for example, clockwise and/or counterclockwise rotation relative to a user's manipulation of cutting device 105. The user may move (e.g., rotate) cover member 115 so that protrusion 285 is urged over protrusion 210 disposed in portion 200 of recess 185. Cover member 115 may be locked in a second position uncovering cutting member 125 when protrusion 285 is disposed in an end portion of portion 200 that is distal from portion 190 (e.g., a position in which protrusion 210 is disposed between protrusion 285 and a location of portion 200 that meets portion 190). When cover member 115 is locked in the second position uncovering cutting member 125, a user may utilize cutting device 105 to cut material using cutting member 125. A user may also for example replace a used cutting member 125 with a new cutting member 125 by detaching and replacing cutting members to attachment portion 140.

For example, cover member 115 may be locked in the first position (e.g., covering cutting member 125) when protrusion 285 is disposed at an end portion of the second portion (e.g., portion 195) of recess 185 that is distal from the first portion (e.g., portion 190) of recess 185. Also for example, cover member 115 may be locked in the second position (e.g., uncovering cutting member 125) when protrusion 285 is disposed at an end portion of the third portion (e.g., portion 200) of the recess that is distal from the first portion (e.g., portion 190) of recess 185.

When a user has finished using cutting device 105, the user may close cutting device 105 (e.g., cover cutting member 125 with cover member 115) by reversing the steps disclosed above. For example, a user may unlock locking member 115 by urging protrusion 285 over protrusion 210, moving protrusion 285 along a remainder of portion 200 (e.g., by rotating cover member 115), moving protrusion 285 along a length of portion 190 (e.g., or other exemplary portions such as portions 330, 430, 530, and/or 940; for example by moving cover member 115 along a substantially longitudinal direction of cutting device 105), and then moving protrusion 285 within portion 195 and over protrusion 205 to lock cover member 115 into place in the first position covering cutting member 125. For example, when cover member 115 is in the first position (e.g., first locked position) covering cutting member 125, cutting device 105 may be in a suitable configuration for storage and/or for the user to carry (e.g., without concern regarding unintentional cutting by the exemplary cutting device).

The exemplary disclosed cutting device and method may provide an intuitively simple device and technique for safely and easily using a cutting device such as a pen cutter. For example, the exemplary device and method may provide a technique for covering a cutting member without using a separate cap that may become lost. Also, the exemplary device and method may provide a technique for quickly and easily covering a cutting member as desired during use. For example, the exemplary device may include a cap that may not become separated and may avoid the continued use of a cutting device that is missing a cap. For example, the use of a cutting device such as a pen cutter with an exposed blade is avoided, thereby decreasing the probability of accidental cuts and injuries to people, materials, and objects.

It should be noted that the features illustrated in the drawings are not necessarily drawn to scale, and features of one embodiment may be employed with other embodiments as the skilled artisan would recognize, even if not explicitly stated herein. Descriptions of well-known components and processing techniques may be omitted so as to not unnecessarily obscure the embodiments.

It will be apparent to those skilled in the art that various modifications and variations can be made to the disclosed cutting device and method. Other embodiments will be apparent to those skilled in the art from consideration of the specification and practice of the disclosed method and apparatus. It is intended that the specification and examples be considered as exemplary only, with a true scope being indicated by the following claims.

What is claimed is:

1. A cutting device, comprising:

a body member;

a cutting member that is removably attachable to the body member; and

a cover member that is movably disposed on the body member, the cover member including a protrusion;

wherein the body member includes a recess configured to receive the protrusion;

wherein the recess includes a first portion extending in a first direction and a second portion extending in a second direction that is different from the first direction; and

wherein the second portion of the recess includes a protrusion disposed at a central portion of the second portion of the recess.

2. The cutting device of claim 1, wherein the cover member is movably disposed on the body member between a first position covering the cutting member and a second position uncovering the cutting member.

3. The cutting device of claim 2, wherein the recess includes a third portion extending in the second direction, wherein the first portion is disposed between the second portion and the third portion.

4. The cutting device of claim 3, wherein the cover member is locked in the second position when the protrusion of the cover member is disposed at an end portion of the third portion of the recess that is distal from the first portion of the recess.

5. The cutting device of claim 2, wherein the cover member is locked in the first position when the protrusion of the cover member is disposed at an end portion of the second portion of the recess that is distal from the first portion of the recess.

6. The cutting device of claim 1, wherein the first direction is substantially perpendicular to the second direction.

7. The cutting device of claim 1, wherein the first direction is a longitudinal direction extending along a length of the cutting device.

8. The cutting device of claim 1, wherein the second direction is a radial direction extending radially about a longitudinal centerline of the cutting device.

9. The cutting device of claim 1, wherein the cutting member is formed from ceramic material.

10. A method, comprising:

removably attaching a cutting member to a body member;

moving a cover member in a first direction along a length of the body member between a first position covering the cutting member and a second position uncovering the cutting member, providing the cover member with a protrusion; and

moving the cover member in a second direction that is different from the first direction at the first position or the second position to lock/unlock the cover member;

providing the body member with a recess configured to receive the protrusion of the cover member, the recess including a first portion extending in the first direction and a second portion extending in the second direction;

providing the second portion of the recess with a protrusion and moving the protrusion of the cover member over the protrusion of the second portion of the recess to lock/unlock the cover member.

11. The method of claim 10, wherein the protrusion of the second portion of the recess is disposed at a central portion of the second portion.

12. The method of claim 10, further comprising locking or unlocking the cover member at the first position covering the cutting member by moving the cover member in the second direction.

13. The method of claim 10, further comprising locking or unlocking the cover member at the second position uncovering the cutting member by moving the cover member in the second direction.

14. The method of claim 10, further comprising encircling a portion of the body member with the cover member.

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